Safety Attribute Inspection (SAI) Data Collection Tool
5.1.8 Extended Range Operations with Two−Engine Airplanes (ETOPS) (AW)

ELEMENT SUMMARY INFORMATION

Purpose of This Element (Certificate Holder's responsibility):

- To ensure continuous safe and reliable operations in accordance with the Certificate Holder's Extended Range Operations with Two−Engine Airplanes (ETOPS) authorization.

Objective (FAA oversight responsibility):

- To determine if the Certificate Holder's Extended Range Operations with Two−Engine Airplanes (ETOPS) program meets all applicable requirements of the Federal Aviation Regulations and FAA policies.
- To determine if the Certificate Holder's Extended Range Operations with Two−Engine Airplanes (ETOPS) program incorporates the System Safety Attributes.
- To identify any shortfalls in the Certificate Holder's Extended Range Operations with Two−Engine Airplanes (ETOPS) program.

Specific Instructions:

- Intentionally left blank

SUPPLEMENTAL INFORMATION

Specific Regulatory Requirement(s) (SRRs):

- SRRs:
  119.33(a)(3)
  119.43(b)
  119.43(b)(1)
  119.43(b)(2)
  119.43(c)
  121.135(a)(1)
  121.135(b)(1)
  121.135(b)(2)
  121.135(b)(3)

Related CFR(s) & FAA Policy/Guidance:

- Related CFRs:

121.135(b)(19)
121.367

- FAA Policy/Guidance:
  FAA Order 8300.10, Volume 2, Chapter 82
  FAA Order 8300.10, Volume 3, Chapter 43
  Advisory Circular 120−42A
  HBAW 00−15A
  ETOPS Policy Letter EPL 20−1

SAI SECTION 1 − PROCEDURES ATTRIBUTE	
Objective: Procedures, instructions and information contained in Certificate Holder's manual are documented methods for accomplishing a process. Policies contained in the Certificate Holder's manual should establish the Certificate Holder's compliance posture. Policies may not be stand−alone statements but may be imbedded within procedures, instructions or information regarding a particular regulatory requirement. The questions in this section of the data collection tool are designed to assist the inspector in determining if the Certificate Holder's manual has documented or prescribed methods of accomplishing the process requirements that provide answers to the associated who, what, when, where and how type questions. This section of the data collection tool contains policy questions, procedural questions and instructional or informational questions pertaining to various types of Certificate Holder requirements such as actions, prohibitions or resources (i.e., personnel, facilities, equipment, technical data, etc.).	
Tasks	
To meet this objective, the inspector must accomplish the following tasks:	
1 Review the information listed in the Supplemental Information section of this data collection tool.	
2 Review the duties and responsibilities for management and other personnel identified by the Certificate Holder who accomplish the Extended Range Operations with Two−Engine Airplanes (ETOPS) program.	
3 Review the Certificate Holder's manual to ensure that it contains policies, procedures, instructions and information necessary for the Extended Range Operations with Two−Engine Airplanes (ETOPS) program.	
Questions	
To meet this objective, the inspector must answer the following questions:	
1. Does the Certificate Holder's manual content meet the specific regulatory and FAA policy requirements for an Extended Range Operations with Two−Engine Airplanes (ETOPS} program:	
1.1 Does the Certificate Holder's manual contain general policies for the Extended Range Operations with Two−Engine Airplanes (ETOPS) program that comply with the specific regulatory requirements? SRRs: 119.33(a)(3); 121.135(b)(1); D.086 *Related Design JTI's:* 1. Check that the Certificate Holder's manual contains a general policy regarding the requirement that they must obtain ETOPS maintenance programs operations specifications that prescribe the authorizations, limitations, and procedures under which ETOPS operations must be conducted. *Sources:* 119.33(a)(3); 121.135(b)(1); D.086 2. Check that the Certificate Holder's manual contains a general policy that they are authorized to use airplanes listed in Operations Specifications Paragraph D86 table 1 in ETOPS operations subject to the conditions and limitations of Operations Specifications Paragraph D86. *Sources:* 121.135(b)(1); D.086 3. Check that the Certificate Holder's manual contains a general policy that a separate reliability reporting system	☐ Yes ☐ No, Explain

	must be established for the ETOPS fleet. *Sources:* 121.135(b)(1); D.086(a) *Interfaces:* 1.3.1−aw; 1.3.11−aw; 1.3.2−aw; 1.3.15−aw 4. Check that the Certificate Holder's manual contains a general policy regarding the requirement to continually assess the propulsion and airframe systems reliability within the ETOPS fleet in accordance with the programs identified in table 2 of Operations Specifications Paragraph D86(b). *Sources:* 121.135(b)(1); D.086(b) *Interfaces:* 1.3.15−aw; 1.3.11−aw 5. Check that the Certificate Holder's manual contains a general policy that they shall identify the items controlled by the programs listed in Table 2 Operations Specifications Paragraph D86. *Sources:* 121.135(b)(1); D.086(c) *Interfaces:* 1.3.15−aw; 1.3.11−aw 6. Check that the Certificate Holder's manual contains a general policy that the airplane must meet all requirements for configuration, maintenance, and procedures (CMP) for ETOPS operations; as specified in the manufacture's document or applicable FAA approved configuration, maintenance, and procedures document; and the current and subsequent FAA approved amendments identified in table 3 of Operations Specifications Paragraph D86. *Sources:* 121.135(b)(1); D.086(d) *Interfaces:* 1.3.2−aw; 1.3.1−aw	
1.2	Does the Certificate Holder's manual cite the regulatory requirements listed in the Supplemental Information section of this SAI? SRRs: 121.135(b)(3)	☐ Yes ☐ No, Explain
1.3	Does the Certificate Holder's manual contain the duties and responsibilities for personnel who will accomplish the Extended Range Operations with Two−Engine Airplanes (ETOPS) program? SRRs: 121.135(b)(2)	☐ Yes ☐ No, Explain
1.4	Does the Certificate Holder's manual include instructions and information for personnel concerned to meet the requirements of the Extended Range Operations With Two Engine Airplanes program? SRRs: 121.135(a)(1)	☐ Yes ☐ No, Explain
1.5	Does the Certificate Holder's manual specify that the Certificate Holder will use only airplanes listed in Table 1 of operations specifications D086 for extended range operations? SRRs: D.086	☐ Yes ☐ No, Explain
1.6	Does the Certificate Holder's manual contain a separate reliability reporting system for the extended range fleet? SRRs: D.086(a)	☐ Yes ☐ No, Explain

1.7 Does the Certificate Holder's manual specify that the Certificate Holder will continually assess the propulsion and airframe systems reliability within the extended range fleet in accordance with the programs identified in Table 2 of operations specifications D086? SRRs: D.086(b) *Related Design JTI's:* 1. Check that the Certificate Holder's programs identified in table 2 of Operations Specifications Paragraph D86(b) include the instructions and information necessary to allow personnel concerned to perform the duty and responsibility of continually assessing the propulsion and airframe systems reliability within the ETOPS fleet. *Sources:* 121.135(a)(1); D.086(b) *Interfaces:* 1.3.15−aw; 1.3.11−aw	☐ Yes ☐ No, Explain
1.8 Are the items controlled by the programs identified in Table 2 of operations specifications D086 identified in the Certificate Holder's manual? SRRs: D.086(c) *Related Design JTI's:* 1. Check that the Certificate Holder's manual contains a general policy that they shall identify the items controlled by the programs listed in Table 2 Operations Specifications Paragraph D86. *Sources:* 121.135(b)(1); D.086(c) *Interfaces:* 1.3.15−aw; 1.3.11−aw 2. Check that the Certificate Holder's manual includes instructions and information necessary to allow personnel concerned to perform the duty and responsibility to identify in the manual the items controlled by the programs listed in Table 2 Operations Specifications Paragraph D86. *Sources:* 121.135(a)(1); D.086(c) *Interfaces:* 1.3.11−aw; 1.3.15−aw	☐ Yes ☐ No, Explain
1.9 Does the Certificate Holder's manual specify that the airplanes must meet all requirements for configuration, maintenance and procedures (CMP) for extended−range operations as specified in the following: SRRs: D.086(d)	
1.9.1 The manufacturer's document? SRRs: D.086(d) *Related Design JTI's:* 1. Check that the Certificate Holder's inspection program contains instructions covering procedures, standards, responsibilities and authority of inspection personnel that ensures that the airplane meets all requirements for configuration, maintenance, and procedures (CMP) for ETOPS operations; as specified in the manufacture's document or applicable FAA approved configuration, maintenance, and procedures document; and the current and subsequent FAA approved amendments identified in table 3 of Operations Specifications Paragraph D86. *Sources:* 121.135(b)(19); 121.367; D.086(d)	☐ Yes ☐ No, Explain ☐ Not Applicable

Interfaces: 1.3.2−aw	
1.9.2 The applicable FAA approved configuration, maintenance and procedures document? SRRs: D.086(d) *Related Design JTI's:* 1. Check that the Certificate Holder's inspection program contains instructions covering procedures, standards, responsibilities and authority of inspection personnel that ensures that the airplane meets all requirements for configuration, maintenance, and procedures (CMP) for ETOPS operations; as specified in the manufacture's document or applicable FAA approved configuration, maintenance, and procedures document; and the current and subsequent FAA approved amendments identified in table 3 of Operations Specifications Paragraph D86. *Sources:* 121.135(b)(19); 121.367; D.086(d) *Interfaces:* 1.3.2−aw	☐ Yes ☐ No, Explain ☐ Not Applicable
1.9.3 The current and subsequent FAA approved amendments identified in Table 3 of operations specifications D086? SRRs: D.086(d) *Related Design JTI's:* 1. Check that the Certificate Holder's inspection program contains instructions covering procedures, standards, responsibilities and authority of inspection personnel that ensures that the airplane meets all requirements for configuration, maintenance, and procedures (CMP) for ETOPS operations; as specified in the manufacture's document or applicable FAA approved configuration, maintenance, and procedures document; and the current and subsequent FAA approved amendments identified in table 3 of Operations Specifications Paragraph D86. *Sources:* 121.135(b)(19); 121.367; D.086(d) *Interfaces:* 1.3.2−aw	☐ Yes ☐ No, Explain
1.10 Does the Certificate Holder's manual contain the required references to, or excerpts from, operations specifications D086? SRRs: 119.43(b)	☐ Yes ☐ No, Explain
1.11 If the Certificate Holder's manual includes excerpts from its operations specifications, are the excerpts clearly identified as part of the operations specifications? SRRs: 119.43(b)(1)	☐ Yes ☐ No, Explain ☐ Not Applicable
1.12 Does the Certificate Holder's manual require compliance with operations specifications D086? SRRs: 119.43(b)(2)	☐ Yes ☐ No, Explain
1.13 Does the Certificate Holder's manual contain a method for keeping all persons engaged in its operations informed of the provisions of operations specifications D086? SRRs: 119.43(c)	☐ Yes ☐ No, Explain

1.14 Does the Certificate Holder's ETOPS program comply with the related requirements of 14 CFR 121.135(b)(19)? Related CFRs: 121.135(b)(19) *Related Design JTI's:* 1. Check that the Certificate Holder's inspection program contains instructions covering procedures, standards, responsibilities and authority of inspection personnel that ensures that the airplane meets all requirements for configuration, maintenance, and procedures (CMP) for ETOPS operations; as specified in the manufacture's document or applicable FAA approved configuration, maintenance, and procedures document; and the current and subsequent FAA approved amendments identified in table 3 of Operations Specifications Paragraph D86. *Sources:* 121.135(b)(19); 121.367; D.086(d) *Interfaces:* 1.3.2−aw	☐ Yes ☐ No, Explain
1.15 Does the Certificate Holder's ETOPS program comply with the related requirements of 14 CFR 121.367? Related CFRs: 121.367 *Related Design JTI's:* 1. Check that the Certificate Holder's inspection program contains instructions covering procedures, standards, responsibilities and authority of inspection personnel that ensures that the airplane meets all requirements for configuration, maintenance, and procedures (CMP) for ETOPS operations; as specified in the manufacture's document or applicable FAA approved configuration, maintenance, and procedures document; and the current and subsequent FAA approved amendments identified in table 3 of Operations Specifications Paragraph D86. *Sources:* 121.135(b)(19); 121.367; D.086(d) *Interfaces:* 1.3.2−aw	☐ Yes ☐ No, Explain
1.16 Does the Certificate Holder's ETOPS program comply with the guidance contained in FAA Order 8300.10? *Related Design JTI's:* 1. Check that the Certificate Holder's Verification program includes a list of primary systems, by Air Transportation Association chapter. *Sources:* 8300.10; Volume 2 Chapter 82; Section 2; Paragraph 5B(1) 2. Check that the Certificate Holder's Verification program includes procedures for initiating verification actions. *Sources:* 8300.10; Volume 2 Chapter 82; Section 2; Paragraph 5B(1) 3. Check that the Certificate Holder's ETOPS supplemental maintenance program includes written procedures to ensure the flight crew is fully briefed prior to dispatch concerning the event and/or the maintenance performed when regularly scheduled ETOPS revenue flight is used as a maintenance verification flight. *Sources:* 8300.10 Volume 2 Chapter 82 Section 1; Paragraph 5B(2)(b)	☐ Yes ☐ No, Explain

Interfaces: 3.1.3−op; 3.2.1−op; 3.1.9−op

4. Check that the Certificate Holder's Verification program includes conditions that require verification flights.
   Sources: 8300.10; Volume 2 Chapter 82; Section 2; Paragraph 5B(1)
   Interfaces: 3.2.1−op; 7.1.6−aw
5. Check that the Certificate Holder's ETOPS supplemental maintenance program contains verification flight procedures for events involving propulsion system shutdown and for certain adverse trends or prescribed events.
   Sources: 8300.10 Volume 2; Chapter 82 Section 1; Paragraph 5B(2)(b); Change 12
   Interfaces: 1.3.1−aw; 1.3.2−aw
6. Check that the Certificate Holder's ETOPS supplemental maintenance program contains verification flight procedures for events involving engine change and for certain adverse trends or prescribed events.
   Sources: 8300.10 Volume 2 Chapter 82 Section 1; Paragraph 5B(2)(b); Change 12
   Interfaces: 1.3.1−aw; 1.3.2−aw
7. Check that the Certificate Holder's ETOPS supplemental maintenance program contains verification flight procedures for events involving major engine module change and for certain adverse trends or prescribed events.
   Sources: 8300.10 Volume 2 Chapter 82; Section 1; Paragraph 5B(2)(b); Change 12
   Interfaces: 1.3.2−aw; 1.3.1−aw
8. Check that the Certificate Holder's ETOPS supplemental maintenance program contains verification flight procedures for events involving primary system failure and for certain adverse trends or prescribed events.
   Sources: 8300.10 Volume 2 Chapter 82 Section 1; Paragraph 5B(2)(b); Change 12
   Interfaces: 1.3.1−aw; 1.3.2−aw
9. Check that the Certificate Holder's Verification program includes procedures that monitor and evaluate corrective actions.
   Sources: 8300.10; Volume 2 Chapter 82; Section 2; Paragraph 5B(1); Change 12
   Interfaces: 1.3.11−aw; 1.3.2−aw; 1.3.15−aw; 1.3.1−aw
10. Check that the Certificate Holder's Verification program includes procedures that identify and reverse the adverse trends.
    Sources: 8300.10 Volume 2 Chapter 82 Section 2 Paragraph 5B(1) Change 12
    Interfaces: 1.3.15−aw; 1.3.11−aw; 1.3.2−aw; 1.3.1−aw
11. Check that the Certificate Holder's Verification program includes procedures that verify the implementation of corrective action.
    Sources: 8300.10 Volume 2 Chapter 82 Section 2 Paragraph 5B(1) Change 12
    Interfaces: 1.3.2−aw; 1.3.1−aw; 1.3.11−aw; 1.3.15−aw
12.

Check that the Certificate Holder's instructions and information regarding the APU in−flight start validation program, as part of their overall ETOPS maintenance program for each specific airframe/engine combination, the in−flight APU starts need not be performed on ETOPS flights (the APU must be in the ETOPS configuration in accordance with the Applicable configuration and maintenance procedures (CMP) document), in order for credit to be allowed.
Sources: 8300.10 ; Volume 2 Chapter 82 Section 1; Paragraph 5B(2)(e); Change 12
Interfaces: 1.3.1−aw; 1.3.2−aw

13. Check that the Certificate Holder's instructions and information regarding the APU in−flight start validation program, as part of their overall ETOPS maintenance program for each specific airframe/engine combination, if in−flight APU starts are performed on an ETOPS flight, the start should be attempted on the return leg to the United States.
Sources: 8300.10; Volume 2; Chapter 82; Section 1; Paragraph 5B(2)(e); Change 12
Interfaces: 1.3.2−aw; 1.3.1−aw
14. Check that the Certificate Holder's instructions and information regarding the APU in−flight start validation program, as part of their overall ETOPS maintenance program for each specific airframe/engine combination, the start attempt should be initiated before top of descent, or at such time, that will ensure a two−hour cold soak at altitude.
Sources: 8300.10, Volume 2, Chapter 82, Section 1; Paragraph 5B(2)(e); Change 12
Interfaces: 1.3.2−aw; 1.3.1−aw
15. Check that the Certificate Holder's instructions and information regarding the APU in−flight start validation program, as part of their overall ETOPS maintenance program for each specific airframe/engine combination, if the APU fails to start on the first attempt, subsequent start attempts may be made within the limits of the airframe and APU manufacturer design specifications.
Sources: 8300.10 Volume 2; Chapter 82; Section 1; Paragraph 5B(2)(e); Change 12
Interfaces: 1.3.2−aw; 1.3.1−aw
16. Check that the Certificate Holder's instructions and information regarding the APU in−flight start validation program, as part of their overall ETOPS maintenance program for each specific airframe/engine combination, that a continuation of the initial in−flight start validation program for each specific airframe / engine combination may be required, if less than 95 percent of in−flight start reliability is achieved.
Sources: 8300.10 Volume 2 Chapter 82 Section 1; Paragraph 5B(2)(e); Change 12
Interfaces: 1.3.2−aw; 1.3.11−aw; 1.3.1−aw; 1.3.15−aw
17. Check that the Certificate Holder's instructions and information regarding the Reliability program includes the reporting criteria.

Sources: 8300.10; Volume 2 ; Chapter 82 ; Section 2; Paragraph 5B(3); Change 12
Interfaces: 1.3.11−aw; 1.3.1−aw; 1.3.15−aw; 1.3.2−aw

18. Check that the Certificate Holder's includes the Reliability program procedures to report significant individual events (engine shutdowns, flight diversions, etc.).
Sources: 8300.10; Volume 2 ; Chapter 82 ; Section 2; Paragraph 5B(3); Change 12
Interfaces: 1.3.15−aw; 1.3.11−aw; 1.3.2−aw; 1.3.1−aw
19. Check that the Certificate Holder's Engine oil consumption monitoring program includes the established limits of consumption.
Sources: 8300.10; Volume 2 Chapter 82; Section 2 5B(4); Change 12
Interfaces: 1.3.2−aw; 1.3.1−aw; 1.3.15−aw; 1.3.11−aw
20. Check that the Certificate Holder's Engine oil consumption monitoring program includes the procedures for use and verification prior to the start of each ETOPS leg.
Sources: 8300.10; Volume 2 Chapter 82; Section 2 5B(4); Change 12
Interfaces: 1.3.2−aw; 1.3.1−aw; 1.3.15−aw; 1.3.11−aw
21. Check that the Certificate Holder's APU oil consumption monitoring program includes the established limits of consumption.
Sources: 8300.10; Volume 2 Chapter 82; Section 2 5B(4); Change 12
Interfaces: 1.3.11−aw; 1.3.15−aw; 1.3.2−aw; 1.3.1−aw
22. Check that the Certificate Holder's APU oil consumption monitoring program includes the procedures for use and verification prior to the start of each ETOPS leg.
Sources: 8300.10; Volume 2 Chapter 82; Section 2 5B(4); Change 12
Interfaces: 1.3.15−aw; 1.3.1−aw; 1.3.2−aw; 1.3.11−aw
23. Check that the Certificate Holder's ETOPS parts control includes the methods of verification of proper parts.
Sources: 8300.10 Volume 2 Chapter 82 Section 2; Paragraph 5B(5); Change 12
Interfaces: 1.3.22−aw; 1.3.21−aw; 1.3.2−aw; 1.3.1−aw; 1.3.10−aw
24. Check that the Certificate Holder's ETOPS parts control includes control procedures during parts pooling and borrowing.
Sources: 8300.10 Volume 2 Chapter 82 Section 2; Paragraph 5B(5) ; Change 12
Interfaces: 1.3.10−aw; 1.3.21−aw; 1.3.2−aw; 1.3.1−aw; 1.3.22−aw
25. Check that the Certificate Holder's Continuing Analysis and Surveillance program for ETOPS, includes the frequency of audits.
Sources: 8300.10; Volume 2 Chapter 82; Section 2; Paragraph 5B(7); Change 12
Interfaces: 1.3.11−aw; 1.3.15−aw
26. Check that the Certificate Holder's Continuing Analysis and Surveillance program for ETOPS, includes the reports generated by audits.
Sources: 8300.10; Volume 2 Chapter 82; Section 2; Paragraph

5B(7); Change 12 *Interfaces:* 1.3.15−aw; 1.3.11−aw 27. Check that the Certificate Holder's instructions and information regarding their Continuing Analysis and Surveillance program for ETOPS, includes the ease of use of the program. *Sources:* 8300.10; Volume 2 Chapter 82; Section 2; Paragraph 5B(7); Change 12 *Interfaces:* 1.3.15−aw; 1.3.11−aw 28. Check that the Certificate Holder's APU in−flight−start program, monitors the APU at a level of performance and reliability established by the manufacturer or FAA. *Sources:* 8300.10; Volume 2 Chapter 82; Section 2; Paragraph 5B(8); Change 12 *Interfaces:* 1.3.11−aw; 1.3.15−aw 29. Check that the Certificate Holder's APU in−flight−start program, includes a periodic sampling of APU in−flight starting. *Sources:* 8300.10; Volume 2 Chapter 82; Section 2; Paragraph 5B(8); Change 12 *Interfaces:* 1.3.15−aw; 1.3.11−aw 30. Check that the Certificate Holder's APU in−flight−start program sampling interval may be adjusted according to system performance. *Sources:* 8300.10; Volume 2 Chapter 82; Section 2; Paragraph 5B(8); Change 12 *Interfaces:* 1.3.11−aw; 1.3.15−aw	
1.17 Does the Certificate Holder's ETOPS program comply with the guidance contained in Advisory Circular 120−42A? *Related Design JTI's:* 1. Check that the Certificate Holder's instructions and information regarding the ETOPS maintenance program for airplanes used in 75−, 120−, and 180−minute ETOPS operations contains the standards, guidance, and direction necessary to support the intended operations. *Sources:* Advisory Circular; 120−42a; Appendix 4; Paragraph 1; Dated:12/30/88 *Interfaces:* 1.3.1−aw; 1.3.2−aw 2. Check that the Certificate Holder's instructions and information regarding the maintenance personnel involved in affecting this program are made aware of the special nature of ETOPS and have the knowledge, skills and ability to accomplish the requirements of the program. *Sources:* Advisory Circular; 120−42a; Appendix 4; Paragraph 1; Dated:12/30/88 *Interfaces:* 4.2.1−aw 3. Check that the Certificate Holder's ETOPS maintenance procedures preclude the identical action from being applied to multiple similar elements in any ETOP critical system (e.g., fuel control change on both engines). *Sources:* Advisory Circular; 120−42a; Appendix 4; Paragraph 1a(2)	☐ Yes ☐ No, Explain

Dated:12/30/88
Interfaces: 1.3.1−aw; 1.3.2−aw; 7.1.6−aw

4. Check that the Certificate Holder's Engine oil consumption program reflect the manufacturer's recommendations.
Sources: Advisory Circular 120−42a; Appendix 4; Paragraph 1a(4)
Dated:12/30/88
Interfaces: 1.3.15−aw; 1.3.11−aw; 1.3.1−aw; 1.3.2−aw
5. If the APU is required for ETOPS, check that the Certificate Holder's APU oil consumption program reflect the manufacturer's recommendations.
Sources: Advisory Circular 120−42a; Appendix 4; Paragraph 1a(4)
Dated:12/30/88
Interfaces: 1.3.2−aw; 1.3.1−aw; 1.3.11−aw; 1.3.15−aw
6. Check that the Certificate Holder's ETOPS reliability program is event−orientated and incorporates reporting procedures for significant events detrimental to ETOPS flights.
Sources: Advisory Circular ; 120−42a; Appendix 4; Paragraph 1a(7)
Dated:12/30/88
Interfaces: 1.3.15−aw; 1.3.11−aw
7. Check that the Certificate Holder's ETOPS Maintenance Training Program focuses on the special nature of ETOPS.
Sources: Advisory Circular ; 120−42a; Appendix 4; Paragraph 1a(9)
Dated:12/30/88
Interfaces: 4.2.1−aw
8. Check that the Certificate Holder's ETOPS Maintenance Training Program is included in the normal maintenance training program and emphasizes the special nature of ETOPS maintenance requirements.
Sources: Advisory Circular ; 120−42a; Appendix 4; Paragraph 1a(9)
Dated:12/30/88
Interfaces: 4.2.1−aw
9. Check that the Certificate Holder's ETOPS Maintenance Training Program provides the necessary training to personnel involved in ETOPS so that the ETOPS programs are properly accomplished and emphasize the special nature of ETOPS maintenance requirements.
Sources: Advisory Circular ; 120−42a; Appendix 4; Paragraph 1a(9)
Dated:12/30/88
Interfaces: 4.2.1−aw
10. Check that the Certificate Holder's parts control program includes verification that parts placed on ETOPS airplanes during parts borrowing maintain the necessary ETOPS configuration for that airplane.
Sources: Advisory Circular ; 120−42a; Appendix 4 Paragraph 1a(10)
Dated:12/30/88
Interfaces: 1.3.7−aw; 1.3.10−aw; 1.3.21−aw; 1.3.22−aw
11. Check that the Certificate Holder's parts control program includes verification that parts placed on ETOPS airplanes during parts pooling arrangements maintain the necessary ETOPS configuration for that airplane.

Sources: Advisory Circular ; 120−42a Appendix 4 Paragraph 1a(10) Dated:12/30/88 *Interfaces:* 1.3.7−aw; 1.3.10−aw; 1.3.22−aw; 1.3.21−aw 12. Check that the Certificate Holder's parts control program includes verification that parts placed on ETOPS airplanes after repair maintain the necessary ETOPS configuration for that airplane. *Sources:* Advisory Circular ; 120−42a; Appendix 4 Paragraph 1a(10) Dated:12/30/88 *Interfaces:* 1.3.22−aw; 1.3.21−aw; 1.3.10−aw; 1.3.7−aw 13. Check that the Certificate Holder's parts control program includes verification that parts placed on ETOPS airplanes after overhaul, maintain the necessary ETOPS configuration for that airplane. *Sources:* Advisory Circular ; 120−42a; Appendix 4 Paragraph 1a(10) Dated:12/30/88 *Interfaces:* 1.3.22−aw; 1.3.7−aw; 1.3.21−aw; 1.3.10−aw 14. Check that the Certificate Holder's instructions and information regarding CMP standards in effect prior to the most current revision will no longer be considered suitable for continued ETOPS operation. *Sources:* Advisory Circular ; 120−42a; Paragraph 7f(4) Dated:12/30/88 *Interfaces:* 1.1.2−op; 1.3.2−aw; 1.3.1−aw; 1.1.1−aw; 1.1.2−aw 15. Check that the Certificate Holder's instructions and information regarding CMP standards in effect prior to the most current revision will no longer be considered suitable for continued ETOPS operation. *Sources:* Advisory Circular ; 120−42a; Paragraph 7(f)(4); Dated:12/30/88 *Interfaces:* 1.3.11−aw; 1.3.15−aw 16. Check that the Certificate Holder's instructions and information regarding the incorporation of additional modifications do not adversely effect reliability or conflict with requirements for ETOPS approval. *Sources:* Advisory Circular ; 120−42a; Paragraph 8(h); Dated:12/30/88 *Interfaces:* 1.3.11−aw; 1.3.15−aw 17. Check that the Certificate Holder's instructions and information regarding the incorporation of additional maintenance actions do not adversely effect reliability or conflict with requirements for ETOPS approval. *Sources:* Advisory Circular ; 120−42a; Paragraph 8(h); Dated:12/30/88 *Interfaces:* 1.3.15−aw; 1.3.11−aw	
1.18 Does the Certificate Holder's ETOPS program comply with the guidance contained in HBAW 00−15A? *Related Design JTI's:* 1. Check that the Certificate Holder's instructions and information regarding a part exchanged under the PEP (Parts Exchange Program) must not conflict with the parts controls of ETOPS.	☐ Yes ☐ No, Explain

Sources: HBAW 00−15A Amended Date: 09−22−00 *Interfaces:* 1.3.10−aw; 1.3.7−aw; 1.3.22−aw; 1.3.21−aw	
1.19 Does the Certificate Holder's ETOPS program comply with the guidance contained in ETOPS Policy Letter EPL 20−1? *Related Design JTI's:* 1. Check that the Certificate Holder's information requires the operator to comply with all the operational approval for 180 minutes ETOPS for approval of 207 minutes ETOPS operations. *Sources:* ETOPS Policy; Letter EPL 20−1 Effective date: March 21, 2000 2. Check that the Certificate Holder's information requires the use SATCOM voice and /or SATCOM datalink as a minimum in order to meet the FAR requirements for rapid and reliable communications for 207−minute ETOPS operations. *Sources:* ETOPS Policy; Letter EPL 20−1 Effective date: March 21, 2000 *Interfaces:* 1.1.2−aw; 3.2.3−op; 1.3.2−aw; 1.3.1−aw; 1.1.2−op 3. Check that the Certificate Holder's information requires that the airplane has single engine autoland capability and such systems must be operable for dispatch for 207−minute ETOPS operations. *Sources:* ETOPS Policy; Letter EPL 20−1 Effective date: March 21, 2000 *Interfaces:* 1.1.2−aw; 1.3.1−aw; 1.3.2−aw; 1.1.2−op; 3.2.3−op 4. Check that the Certificate Holder's information includes that MEL restrictions for 180−minute operations shall be applicable for 207−minute ETOPS operations. *Sources:* ETOPS Policy; Letter EPL 20−1 Effective date: March 21, 2000 *Interfaces:* 1.1.2−op; 1.1.2−aw; 1.3.1−aw; 3.2.3−op; 1.3.2−aw 5. Check that the Certificate Holder's information requires the FQIS (Fuel Quantity Indication System) shall not be inoperative prior to dispatch for 207−minute ETOPS operations. *Sources:* ETOPS Policy; Letter EPL 20−1 Effective date: March 21, 2000 *Interfaces:* 1.3.2−aw; 1.3.1−aw; 1.1.2−aw; 3.2.3−op; 1.1.2−op 6. Check that the Certificate Holder's information requires the APU (including electrical and pneumatic supply to its designed capability) shall not be inoperative prior to dispatch for 207−minute ETOPS operations. *Sources:* ETOPS Policy; Letter EPL 20−1 Effective date: March 21, 2000	☐ Yes ☐ No, Explain ☐ Not Applicable

Interfaces: 3.2.3−op; 1.3.2−aw; 1.3.1−aw; 1.1.2−aw; 1.1.2−op

7. Check that the Certificate Holder's information requires the Autothrottle system shall not be inoperative prior to dispatch for 207−minute ETOPS operations.
Sources: ETOPS Policy; Letter EPL 20−1 Effective date: March 21, 2000
Interfaces: 1.1.2−op; 3.2.3−op; 1.3.2−aw; 1.1.2−aw; 1.3.1−aw
8. Check that the Certificate Holder's information requires the SATCOM voice and /or SATCOM datalink shall not be inoperative prior to dispatch for 207−minute ETOPS operations.
Sources: ETOPS Policy; Letter EPL 20−1 Effective date: March 21, 2000
Interfaces: 1.3.1−aw; 1.3.2−aw; 1.1.2−op; 3.2.3−op; 1.1.2−aw
9. Check that the Certificate Holder's instructions and information require operators who are granted 207 minutes ETOPS authority to record and document necessary information that substantiates the use of the 207 minute dispatch for each flight that it is applied to.
Sources: ETOPS Policy; Letter EPL 20−1 Effective date: March 21, 2000
Interfaces: 1.3.2−aw; 1.3.1−aw
10. Check that the Certificate Holder's instructions and information require the airline to retain copies of the records for at least three months, that substantiate the use of the 207 minute dispatch for operators who are granted 207 minutes ETOPS authority.
Sources: ETOPS Policy; Letter EPL 20−1 Effective date: March 21, 2000
Interfaces: 1.2.3−aw
11. Check that the Certificate Holder's instructions and information require the airline to make copies of the records available to the FAA upon request that substantiate the use of the 207 minute dispatch for operators who are granted 207 minutes ETOPS authority.
Sources: ETOPS Policy; Letter EPL 20−1 Effective date: March 21, 2000
Interfaces: 1.2.3−aw
12. Check that the Certificate Holder's information requires that the airframe−engine met the 180 minutes type design approval.
Sources: ETOPS Policy; Letter EPL 20−1 Effective date: March 21, 2000
Interfaces: 1.1.1−aw
13. Check that the Certificate Holder's instructions and information require that all the requirements specified in

	the Configuration Maintenance and Procedures (CMP) for 180 minute ETOPS remain applicable for operators who are granted 207 minutes ETOPS authority. *Sources:* ETOPS Policy; Letter EPL 20−1 Effective date: March 21, 2000 *Interfaces:* 1.3.2−aw; 1.3.1−aw 14. Check that the Certificate Holder's instructions and information regarding the engine inflight shutdown (IFSD) target level shall be at .019/1000 engine hours for 207−minute ETOPS operations. *Sources:* ETOPS Policy; Letter EPL 20−1 Effective date: March 21, 2000 *Interfaces:* 1.3.15−aw 15. Check that the Certificate Holder's instructions and information regarding revisions to the training curriculum for maintenance personnel to distinguish 207−minute ETOPS authority from 180−minute ETOPS criteria. *Sources:* ETOPS Policy; Letter EPL 20−1 Effective date: March 21, 2000 *Interfaces:* 4.2.1−aw	
1.20	If alternate procedures exist for use during irregular conditions, do the alternate procedures provide an equivalent level of safety to achieve the same results as the primary procedures?	☐ Yes ☐ No, Explain ☐ Not Applicable

SAI SECTION 1 − PROCEDURES ATTRIBUTE −Drop Down Menu
1. No procedures, policy, instructions or information specified.
2. Procedures or instructions and information do not identify (who, what, when, where, how).
3. Procedures, policy or instructions and information do not comply with CFR.
4. Procedures, policy or instructions and information do not comply with FAA policy and guidance.
5. Procedures, policy or instructions and information do not comply with other documentation (e.g., manufacturer's data, Jeppesen's Charts, etc.).
6. Procedures, policy or instructions and information unclear or incomplete.
7. Documentation quality (e.g., unreadable or illegible).
8. Procedures, policy or instructions and information inconsistent across Certificate Holder manuals (FOM − Flight Operations Manual to GMM − General Maintenance Manual, etc.).
9. Procedures, policy or instructions and information inconsistent across media (e.g., paper, microfiche, electronic).
10. Resource requirements incomplete (personnel, facilities, equipment, technical data).
11. Other.

SAI SECTION 2 − CONTROLS ATTRIBUTE		
Objective: Controls are checks and restraints designed into a process to ensure a desired result. The questions in this section of the data collection tool are designed to assist the inspector in determining if checks and restraints are designed into the process to ensure the desired result is achieved. Controls should be written into the manual system to ensure that the most important manual policies, procedures or instructions and information will be complied with. Controls may be in the form of "administrative controls" which are secondary or supplemental written procedures. Like written procedures, administrative controls also need to provide answers to the associated who, what, when, where and how type questions. Controls may also be in the form of "engineered controls" such as automated features or mechanical actions or devices (i.e., safety devices, warning devices, etc.).		
Tasks		
	To meet this objective, the inspector must accomplish the following tasks:	
1	Review the control questions below.	
2	Review the Certificate Holder's policies, procedures, instructions and information to gain an understanding of the controls that it has documented.	
Questions		
	To meet this objective, the inspector must answer the following questions:	
2.	Are the following controls built into the Extended Range Operations with Two−Engine Airplanes (ETOPS) program:	
2.1	Is there a control in place to ensure the Certificate Holder complies with conditions and limitations of their approved Operations Specifications D086?	☐ Yes ☐ No, Explain
2.2	Is there a control in place to ensure that ETOPS maintenance personnel are trained and qualified?	☐ Yes ☐ No, Explain
2.3	Is there a control in place to ensure that maintenance is accomplished in accordance with the standards of the ETOPS maintenance program?	☐ Yes ☐ No, Explain
2.4	Is there a control in place to ensure that the Certificate Holder notifies the Certificate Holding District Office (CHDO) of any system failures or abnormalities?	☐ Yes ☐ No, Explain
2.5	Is there a control in place to ensure that audits are performed on the ETOPS program?	☐ Yes ☐ No, Explain
2.6	Is there a control in place to ensure that the Certificate Holder's ETOPS aircraft are configured and maintained in accordance with the manufacturer's type design and configuration standards for operating in an ETOPS environment?	☐ Yes ☐ No, Explain
2.7	Does the Certificate Holder have a documented method for assessing the impact of any changes made to the controls in the Extended Range Operations with Two−Engine Airplanes (ETOPS) program?	☐ Yes ☐ No, Explain

SAI SECTION 2 − CONTROLS ATTRIBUTE −Drop Down Menu
1. No controls specified.
2. Documentation for the controls do not identify (who, what, when, where, how).
3. Controls incomplete.
4. Controls could be circumvented.
5. Controls could be unenforceable.
6. Resource requirements incomplete (personnel, facilities, equipment, technical data).
7. Other.

SAI SECTION 3 − PROCESS MEASUREMENT ATTRIBUTE		
Objective: Process measurements are used by the Certificate Holder to measure and assess its processes to identify and correct problems or potential problems and to make improvements to the processes. The questions in this section of the data collection tool are designed to assist the inspector in determining if the Certificate Holder measures or assesses information to identify, analyze and document potential problems with the process. Process measurements are basically a Certificate Holder's internal evaluation or auditing of the most important policies, procedures or instructions and information associated with an element. To prevent the duplication of work that would otherwise occur, Process Measurements are most commonly addressed through a combination of auditing features contained in both the Certificate Holder's Safety Program/Internal Evaluation Program (for Operations and Cabin Safety related issues) and the auditing function of the Continuous Analysis &Surveillance System (for Airworthiness or Maintenance/Inspection related issues). The Director of Safety and the Quality Assurance Department often work in conjunction to accomplish this function for the Certificate Holder. This approach simply requires amendment of the Safety Program/Internal Evaluation Program audit forms or checklists and the Continuous Analysis &Surveillance System audit forms or checklists to include the specific process measurements for each element.		
Tasks		
	To meet this objective, the inspector must accomplish the following tasks:	
1	Review the process measurement questions below.	
2	Review the Certificate Holder's policies, procedures, instructions and information to gain an understanding of the process measurements that it has documented.	
Questions		
	To meet this objective, the inspector must answer the following questions:	
3.	Does the Certificate Holder's Extended Range Operations with Two−Engine Airplanes (ETOPS) program include the following process measurements:	
3.1	Process measurements that would reveal when the Certificate Holder failed to comply with conditions and limitations of its approved operations specifications D086?	☐ Yes ☐ No, Explain
3.2	Process measurements that would reveal when assigned ETOPS maintenance personnel are not properly trained and qualified?	☐ Yes ☐ No, Explain
3.3	Process measurements that would reveal if maintenance is not accomplished in accordance with the standards of the ETOPS maintenance program?	☐ Yes ☐ No, Explain
3.4	Process measurements that would reveal if the Certificate Holder failed to notify the Certificate Holding District Office (CHDO) of any system failures or abnormalities?	☐ Yes ☐ No, Explain
3.5	Process measurements that would reveal when audits were not performed on the ETOPS program?	☐ Yes ☐ No, Explain
3.6	Process measurements that would reveal if ETOPS aircraft are not configured and maintained in accordance with the manufacturer's type design and configuration standards?	☐ Yes ☐ No, Explain
3.7	Does the Certificate Holder document its process measurement methods and results?	☐ Yes ☐ No, Explain

3.8	Does the organization that conducts the process measurements have direct access to the person with responsibility for the ETOPS program?	☐ Yes ☐ No, Explain

SAI SECTION 3 − PROCESS MEASUREMENT ATTRIBUTE −Drop Down Menu
1. No process measurements specified.
2. Documentation for the process measurements does not identify (who, what, when, where, how).
3. Inability to identify negative findings.
4. No provisions for implementing corrective actions.
5. Ineffective follow−up to determine effectiveness of corrective actions.
6. Resources requirements (personnel, facilities, equipment, technical data).
7. Other.

SAI SECTION 4 − INTERFACES ATTRIBUTE		
Objective: Interfaces are used by the Certificate Holder to identify and manage the interactions between processes. The questions in this section of the data collection tool are designed to assist the inspector in determining whether or not interactions between the procedures, policies or instructions and information associated with other independent processes within the Certificate Holder's organization are documented. Written procedures, policies or instructions and information that are interrelated and located in different manuals within the Certificate Holder's manual system need to be consistent and complement each other. For the interfaces to be effectively managed, it is not only important to identify what the interfaces are, but it is imperative to document the specific location of the interfaces within the Certificate Holder's manual system.		
Tasks		
	To meet this objective, the inspector must accomplish the following tasks:	
1	Review the interfaces associated with the Extended Range Operations with Two−Engine Airplanes (ETOPS) program that have been identified along with the individual questions in the Procedures Section (1) of this data collection tool.	
2	Review the Certificate Holder's policies, procedures, instructions and information to gain an understanding of the interfaces that it has documented.	
Questions		
	To meet this objective, the inspector must answer the following questions: NOTE: ALL EXPLANATIONS IN THE DROP DOWN MENU FOR "NO" ANSWERS MUST INCLUDE THE INDIVIDUAL QUESTION NUMBER FROM THE PROCEDURES SECTION (1) OF THIS DATA COLLECTION TOOL AND THE ELEMENT NUMBER(S) OF THE INTERFACE(S) THAT WERE NOT ADDRESSED.	
4.	Does the Certificate Holder's manual:	
4.1	Properly address the interfaces that are identified along with the individual questions in the Procedures Section (1)?	☐ Yes ☐ No, Explain
4.2	Document a method for assessing the impact of any changes to the associated interfaces within the ETOPS program?	☐ Yes ☐ No, Explain
4.3	List additional interfaces identified during the accomplishment of this SAI.	

SAI SECTION 4 − INTERFACES ATTRIBUTE −Drop Down Menu
1. No interfaces specified.
2. The following interfaces not identified within the Certificate Holder's manual system:
3. Interfaces listed are inaccurate.
4. Specific location of interfaces not identified within the manual system.
5. Other

SAI SECTION 5 − MANAGEMENT RESPONSIBILITY & AUTHORITY ATTRIBUTE		
Objective: The questions in this section of the data collection tool address the responsibility and authority of the process. They are designed to assist the inspector in determining if there is a clearly identifiable, qualified and knowledgeable person who is responsible for the process, is answerable for the quality of the process and has the authority to establish and modify the process. (The person with the authority may or may not be the person with the responsibility.)		
Tasks		
	To meet this objective, the inspector must accomplish the following tasks:	
1	Identify the person who has overall responsibility for the Extended Range Operations with Two−Engine Airplanes (ETOPS) program.	
2	Identify the person who has overall authority for the Extended Range Operations with Two−Engine Airplanes (ETOPS) program.	
3	Review the duties and responsibilities of the person(s), documented in the Certificate Holder's manual.	
4	Review the appropriate organizational chart.	
Questions		
	To meet this objective, the inspector must answer the following questions:	
5.	Are the following aspects of the Management Responsibility and Authority Attributes addressed in the Extended Range Operations with Two−Engine Airplanes (ETOPS) program:	
5.1	Does the Certificate Holder's manual clearly identify who is responsible for the quality of the Extended Range Operations with Two−Engine Airplanes (ETOPS) program?	☐ Yes ☐ No, Explain Name/Title:
5.2	Does the Certificate Holder's manual clearly identify who has authority to establish and modify the policies, procedures, instructions and information for the Extended Range Operations with Two−Engine Airplanes (ETOPS) program?	☐ Yes ☐ No, Explain Name/Title:
5.3	Does the Certificate Holder's manual include the duties and responsibilities of those who manage the work required by the Extended Range Operations with Two−Engine Airplanes (ETOPS) program? SRRs: 121.135(b)(2)	☐ Yes ☐ No, Explain
5.4	Does the Certificate Holder's manual include instructions and information for those who manage the work required by the Extended Range Operations with Two−Engine Airplanes (ETOPS) program? SRRs: 121.135(a)(1)	☐ Yes ☐ No, Explain
5.5	Does the Certificate Holder's manual clearly and completely document the authority for this position?	☐ Yes ☐ No, Explain
5.6	Does the Certificate Holder's manual clearly and completely document their qualification standards for the person having responsibility for the Extended Range Operations with Two−Engine Airplanes (ETOPS) program?	☐ Yes ☐ No, Explain
5.7	Does the Certificate Holder's manual clearly and completely document their qualification standards for the person having authority to establish and modify the Certificate Holder's policies, procedures, instructions and	☐ Yes ☐ No, Explain

	information for the Extended Range Operations with Two−Engine Airplanes (ETOPS) program?	
5.8	Does the Certificate Holder's manual clearly and completely document the procedures for delegation of authority for the Extended Range Operations with Two−Engine Airplanes (ETOPS) program?	☐ Yes ☐ No, Explain

SAI SECTION 5 − MANAGEMENT RESPONSIBILITY & AUTHORITY ATTRIBUTE −Drop Down Menu
1. Not documented.
2. Documentation unclear.
3. Documentation incomplete.
4. Other.